

MAR 8 1932

The

MANAGEMENT REVIEW

Volume XXI

MARCH, 1932

Number 3

In This Issue

**Statistical Data Needed in Measuring Market
Demand, By T. M. McNIECE.**

The Management Index

Abstracts and Descriptive Notes of Company Activities Including

Financial Management	Production Management
Insurance	Public Relations
Office Management	Marketing Management

Survey of Books for Executives

Successful Living in This Machine Age, EDWARD A. FILENE.

The Advertising Appropriation, ALBERT E. HAASE.

Frankenstein, Incorporated, I. MAURICE WORMSER.

and others

Copyright, 1932

Published Monthly by the

AMERICAN MANAGEMENT ASSOCIATION

20 Vesey Street

New York, N. Y.

AMERICAN MANAGEMENT ASSOCIATION

BOARD OF DIRECTORS

Chairman

SAM A. LEWISOHN, Vice-President and Treasurer, Miami Copper Company

President

WILLIAM J. GRAHAM, Vice-President, The Equitable Life Assurance Society of the United States

Vice-President—in charge of Programs and Publications

ARTHUR H. YOUNG, Industrial Relations Counselors, Inc.

Vice-President—in charge of Financial Division

EDMOND E. LINCOLN, Economist, E. I. du Pont de Nemours & Co.

Vice-President—in charge of Office Management Division

COOKE LEWIS, Vice-President, Liberty Mutual Insurance Company.

Vice-President—in charge of Personnel Division

HARVEY G. ELLERD, Director of Personnel, Armour and Company.

Vice-President—in charge of Job Order Production Division

O. D. REICH, Vice-President and Works Manager, Dexter Folder Company.

Vice-President—in charge of Industrial Marketing Division

C. J. STILWELL, Vice-President, The Warner & Swasey Company.

Vice-President—in charge of Consumer Marketing Division

IRWIN D. WOLF, Secretary, Kaufmann Department Stores, Inc.

Vice-President—in charge of Insurance Division

P. D. BETTERLEY, Assistant Treasurer, Graton & Knight Company.

Vice-President—in charge of Public Relations Division

C. ALISON SCULLY, Vice-President, Bank of Manhattan Trust Co.

Vice-President—in charge of Mass Production Division

P. L. DILDINE, Manager, Factory Standards, B. F. Goodrich Company.

Vice-President—President, Institute of Management

E. O. GRIFFENHAGEN, Griffenhagen & Associates, Ltd.

Vice-President—Chairman, Finance Committee

HAROLD V. COES, Manager, Industrial Department, Ford, Bacon & Davis, Inc.

Vice-President and Treasurer

HARRY B. GILMORE, Secretary, Western Electric Company, Inc.

One Year Term

PAUL A. ANDERSON, Treasurer and General Manager, New England Laundries, Inc.

W. F. COLEMAN, Vice-President in charge of Manufacturing, W. A. Jones Foundry and Machine Company.

A. L. MACDONALD, Chief Accountant, The Bank of Nova Scotia.

RAYMOND S. PERRY, Vice-President, The Ingersoll Milling Machine Company.

JOHN O. PLATT, Vice-President, Insurance Company of North America.

F. L. ROWLAND, Secretary, Lincoln National Life Insurance Company.

L. O. ROYSE, Manager, Office Production, Ralston Purina Company.

E. O. SHERE, Assistant Vice-President, General Electric Company.

EARL WHITEHORNE, Assistant Vice-President, McGraw-Hill Publishing Company, Inc.

BENJAMIN E. YOUNG, Comptroller, Commerce Trust Company.

Two Year Term

ERNEST G. DRAPER, Vice-President, The Hills Brothers Company.

W. A. GRIFFIN, Assistant Vice-President, American Telephone and Telegraph Company.

RICHARD D. HERB, Public Relations Department, Swift & Company.

E. C. JOHNSON, President and General Manager, H. A. Johnson Company.

J. P. JORDAN, Partner, Stevenson, Jordan & Harrison.

HADAR ORTMAN, Director of Operations and Finance, Meredith Publishing Company.

S. R. RECTANUS, Vice-President, The American Rolling Mill Co.

Three Year Term

OLIVER F. BENZ, Director of Sales, Du Pont Cellophane Company.

C. A. BETHEA, Vice-President, Chicago Mail Order Company.

E. E. BRINKMAN, Industrial Engineer, Holeproof Hosiery Company.

H. R. LANE, Vice-President, The Kendall Company.

E. S. LA ROSE, Assistant Controller, Bausch & Lomb Optical Company.

J. H. MACLEOD, Vice-President, The Hinde & Dauch Paper Company.

CLEMENT SAY, Secretary and Treasurer, Northern Electric Company.

GEORGE T. TRUNDLE, JR., President, The Trundle Engineering Company.

WILLARD S. WORCESTER, Secretary and Treasurer, Square D Company.

Vice-President and Managing Director

W. J. DONALD.....20 Vesey St., New York, N. Y.

Secretary

KENNETH B. ANDERSEN.....20 Vesey St., New York, N. Y.

Editor

C. M. RICE.....20 Vesey St., New York, N. Y.

THE MANAGEMENT REVIEW is published monthly by the American Management Association at 20 Vesey Street, New York, N. Y., at fifty cents per copy or five dollars per year. Vol. XXI, No. 3, March, 1932. Entered as second class matter March 26, 1925, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

The MANAGEMENT REVIEW

March, 1932

Statistical Data Needed In Measuring Market Demand*

By T. M. McNIECE, *Manager, Sales Records and Research,
Union Carbide Company*

PROFITABLE sales and distribution constitute one of the most important problems facing business today. The whole field of sales and distribution is in a state of turmoil and uncertainty. Manifold and diversified competition is encountered at every turn. The great merger movement of the past few years will no doubt continue well into the future. These mergers are bringing together not only industries of like nature but those of such diversified calling that their combination would have been unsuspected a few years ago.

These developments have a vital bearing on the problem of sales. This state of flux will of necessity ultimately force a realignment of sales methods and costs. A greater and greater concentration of buying power is occurring in the field of industrial marketing. More and more contracts are consummated at points remote from the place of use. The increased concentration through consolidations is affecting the factor of reciprocity. Conditions in many industries are so highly specialized that their problems will yield only to intense individual study. Nevertheless, it seems beyond reasonable question that there are some principles that may apply in common to many industries in their search for markets.

With these points in mind a questionnaire bearing upon the problem of market analysis was mailed to 466 members of the American Management Association in April, 1931.

It may be said in a general way that the aim in this effort was to point the way, if possible, to better organization and coordination of effort in

* Presented at a dinner meeting during A. M. A. Industrial Marketing Conference held at the Hotel Statler, Cleveland, Nov. 11, 1931.

The object of the publications of the American Management Association is to place before the members ideas which it is hoped may prove interesting and informative, but the Association does not stand sponsor for views expressed by authors in articles issued in or as its publications.

1. Determining what is really needed;

2. Developing agencies and methods for securing and using such data.

Eighty-eight replies to the questionnaire were received. Of these, 72 were available for classification, 66 in definitely classified industries, six in consulting and service agencies.

Twenty-six different classes of industry were represented in the replies received:

Agricultural machinery	Measuring instruments
Automobiles	Mechanical handling equipment
Building equipment	Mechanical specialties
Building materials	Mechanical supplies
Carbon products	Office equipment
Chemical products	Oils and greases
Cordage	Paints and varnishes
Electrical equipment	Photographic materials
Explosives	Paper products
Foods	Rubber products
Foundries	Textile products
Leather products	Tools, hand
Machine tools	Wholesalers

The first question was, "Do you estimate total demand for your products?" In these days when we hear so much about over-production, it seems especially important that some reasonably accurate measure of potential demand be formulated. The belief existed that a relatively large percentage of companies, even though compiling sales budgets, has a comparatively slight knowledge of total market demand for the products involved. Seventy-two replies to this question were received. Of these, 47 answered "yes," 20 answered "no" and five reported that they partially estimate total demand. Aside from those companies who have not yet taken the problem of market determination seriously, the outstanding reason given for failure to estimate total demand is the lack of information that will make this possible.

The reasons prompting the second question, "Do you estimate your share of such demand in totals and by territories for your products?", were the desire to determine the extent to which the industries measure their own efforts in comparison with total demand and also to ascertain the relative degree to which industries recognize the need for measuring performance by territories. The division of practice indicated by the answers is almost identical with that shown by the answers to the first question. Of the 71 replies received, 51 answered "yes," 13 answered "no" and seven indicated that totals only (not by territories) are estimated. While many exceptions will exist, it seems obvious that much remains to be accomplished in measuring relative success in terms of potential or total available demand by territories. Knowledge of these factors is virtually essential if rate of progress in the various territories is to be ascertained. This information, in turn, is necessary for the intelligent

formation of proper sales policies for current and future market development.

It seemed desirable to gain some idea of the adequacy and acceptability of published data commonly in use. Therefore, the next question was, "Are the estimated totals and your share determined through use of published data?" Sixty-five answers to this question were received. Fourteen were "yes," 25 "no" and 26 "partially." It is clearly demonstrated by the answers that published data in themselves are generally quite inadequate to meet many problems. It is very desirable that published data should be supplemented by material privately gathered where feasible. This is the practice indicated. As far as acceptability is concerned, the replies predominantly expressed satisfaction with most data supplied by the government. On the other hand some criticism was received regarding classifications used and in a few cases regarding accuracy and prompt completion.

The primary purpose in asking the next question, "What data do you use in compiling this information?" was to learn what concentration exists in any sources of information and to uncover any unusual source not commonly appreciated. Twenty-one use their own data; 12 use data from trade associations; a large proportion use data from a wide variety of sources such as government departments, trade journals, trade directories, catalogs, etc. Trade association data are apparently used frequently. Forty-five companies made suggestions in one form or another regarding desirable data now unavailable according to their information. A highly significant number of cases indicate principal dependence on trade association data and others rely strongly on trade and other publications. In our opinion, this is extremely important and may properly assume increasing importance in the future.

"What data now unavailable to you would you like to have and in what geographical subdivisions?" The object of this inquiry was to learn definitely what individual industries would like to have but have been unable to secure. Underlying this was the desire to submit such examples to the Department of Commerce for its consideration.

Forty-six of the replies received to this question indicated a desire for more specific information. Of the remaining 26, nine do not make estimates and 17 have a sufficiency of data. Many were using their own and trade association data. Data by counties were very generally requested although a fair proportion of the companies would be satisfied with data by states. This latter division may be satisfactory for those industries dealing directly with their customers. Those companies whose products are distributed through wholesalers or other agencies can gain a much better knowledge of market characteristics by securing their data by counties because wholesale trading areas are not confined by state boundaries but rather are determined by topography of the country and availability of communication and transportation facilities. Unfortunately, those industries whose products are principally marketed through other agencies are not in a position to ascertain accurately

just where ultimate sales of their products are made. If data by counties are known, the required information on market demand may be more readily built up in units that will conform closely to natural wholesale trading areas.

The data designated as desirable but unavailable are so widely variable as to defy any logical classification as far as this report is concerned.

In proceeding further with a discussion of organization for meeting this problem, it will be of interest to consider the present situation as it applies to the existence, collection and use of marketing data.

The various governmental agencies and bureaus have on record and are collecting a vast quantity of both routine statistical data and of information resulting from specific investigations. Some of this is necessary for the proper conduct of the government itself but a great amount of it is not necessary for operating functions. Such material has been collected largely for the use of industry.

Those attending the meeting of the Industrial Marketing Division of the American Management Association held in Washington in March, 1931, were impressed with the earnest spirit and the understanding of market problems manifested by the men in the various bureaus. A great wealth of material is available without charge or at very nominal cost together with service for special inquiries and map and chart making at very reasonable prices.¹

No matter what the type of data or under what stimulus they were collected, the facts seem to warrant the statement that there is an extremely large inventory of government data that suffers from a very low rate of turnover. In any event, there is in existence a large amount of unused data and a pressing problem is to develop their use.

Another outstanding job in the collection of data is being done in many industries by trade associations. These groups are much closer to the point of actual use and presumably should be in a better position to determine what is really needed. Most companies interested in market analysis privately gather much information of value and undoubtedly there are many cases where such information coupled with that from various publications is sufficient for the purpose. Still another and very important source of statistical data is found in the trade and other magazines which are frequently in an advantageous position to accumulate useful facts.

There are, therefore, these four major sources of market information. Each is in position to perform some functions better than the others. On the other hand, there is no doubt that this same situation results in multiplication of effort through overlapping of fields covered. The situation also tends to promote the collection of data in many forms that may be useless.

In view of these conditions as outlined, what seems to be a logical approach to the problem? The work to be done may be classified as follows:

¹ For the proceedings of the meeting and a description of these activities see "Industrial Marketing Data," *Industrial Marketing Series No. 12, 1931, American Management Association.*

1. Determination of data needed,
2. Determination of method of securing the data,
3. Division of responsibility in collecting the data,
4. Promotion of usage of data.

Obviously, the great variety of information required demands a classification by industries. In view of this, it seems equally clear that the trade association occupies a very advantageous position for coordinating the functions just listed. It does seem desirable that industry itself should assume a greater degree of leadership in the collection of statistical data. Under such conditions the trade association can function with still greater effectiveness as a clearing house between its industry and the government in the collection of statistical information.

The highly concentrated industries, automobile, machine tool, etc., for example, are probably in better position to collect essential data than the more individualistic industries such as agriculture and the building trades. Stated otherwise, the government agencies should naturally function to a greater extent in the more widely diffused industries.

In determining what data are needed for measuring market demand, three questions should be kept in mind: namely, how much, where and when.

The first or quantitative measure is essential from every standpoint. It governs investment both in plant and inventories and is the factor which must be thoroughly evaluated in establishing policies and methods. As suggested above, the facility with which such data can be collected will depend upon the degree of coordination attained among those agencies in the best position to secure the information. In many cases, direct quantitative measures may be virtually non-existent. Under these conditions, dependence may have to be placed upon related data such as personnel employed, power consumed and other factors. Any such information should be tested as far as may be feasible to determine the relative accuracy with which it will indicate demand.

When several industries are users of any commodity, the usage by industries should be determined and constant watch kept upon trade levels and trends in those industries. In the case of more important customers, their industries should be watched to avoid possible losses through obsolescence of their processes and products. The acquisition of such knowledge should not be left to chance. There is much more to the problem of measuring demand than is involved in the process of estimating one year's requirements from the sales of the prior year.

The second question to be answered covers the geographical or territorial phase of the problem. The determination of these points vitally affects the location of plants and warehouses and the number and routing of salesmen employed. It is directly concerned with the control of selling and distribution costs. When severe competition exists, the location of competitors' plants

and warehouses with respect to centers of demand may also have to be carefully studied. Data for measuring demand should be collected by those geographical units that will best permit their combination to fit logical trading areas.

The third question, concerning the time when demand will be encountered involves not only the seasonal and secular trends but also the surging characteristics so important today. In the light of present industrial and trade conditions the question assumes much greater importance than would have been generally admitted three or four years ago. The measurement of seasonal variations offers relatively little difficulty. The variations themselves, however, frequently offer great manufacturing difficulties, especially from the standpoint of stability in costs and of labor requirements. This is especially true of semi-perishable, perishable and style goods. As long as yearly models of automobiles prevail, they constitute a good example of a most important commodity with a strong style appeal. In many cases, the introduction of new models is so timed as to accentuate the natural seasonal surge in demand. This in itself promotes an unstable condition in this great industry and its affiliated branches.

It is most important in evaluating demand to know whether the product involved is, on the long pull, meeting with an increasing, a decreasing or a stable *per capita* demand. It should be realized that all demand, whether for industrial or consumer goods takes root in and is dependent on the summation of individual requirements. For the long term, therefore, it is proper to measure the use of any product in terms of population.

The most pressing topic of the day is the current condition of industry and trade. Here, indeed, is the timing of demand admittedly important, for the present at least. It is safe to assume however that in the midst of the next period of inflated business, the present situation will again lose most of its force in the minds of men. It is entirely probable, however, that so-called "new eras" will encounter much slower recognition.

The economic surges resulting in repeated periods of expansion and contraction have troubled and puzzled mankind for generations. These surges are increases and decreases in volume with the passage of time and lead directly to the importance of determining volume in terms of time. In fact it is our inability to answer this question "when?" that has created such an insistent demand for accurate forecasting—as yet an unrealized desire.

Recent analyses of these surges have disclosed much about the nature and causes of some of them. These peculiar manifestations, may be illustrated in part by a study of the behavior of the automobile industry. The years 1918, 1921, 1924, 1927 and 1930 marked declines in output of automobiles that were so serious that the production in those years was less than that of the prior year in each case. Two peculiar conditions apply to this situa-

tion. The first is that the intervals in each case are the same, namely three years; the second is that with the exception of the current year of 1931, these years are the only ones in automobile history in which there has been a reduction in output to less than that of the prior year.

These conditions at once suggest a more careful study of the record of the automobile industry. Examination of this record shows that from the beginning of the industry through the year 1917, there had never been a year in which the output was less than that of the prior year. This statement applies even to the years of depression that occurred in this period. There was a slight retardation in the rate of increase in the years of depression but it never reached the point where there was an actual decline.

During the year 1918, our full energies as a nation were put into the war. Government demands, personal economies as a result of war requirements and the removal of 2,000,000 or more men from the activities of civil life reduced the market for motor cars to such an extent that there was a net decline of over 700,000 cars or 37½ per cent of the 1917 output. This is such a serious decline that if sustained it would be a catastrophe in any industry. We are therefore confronted with the condition previously mentioned, namely that this was the first decline in the history of the industry and that it has reasserted itself every third year since that time.

The repetition seemed to be too frequent to be called a coincidence. One changing feature of the business is that with the passage of the years a larger and larger proportion of annual sales arises in a replacement demand. Further consideration brought home the fact that relatively few buyers of cars use them throughout the useful life of the car. Rather does the replacement demand for new cars come from those who trade in or sell their old cars as part of the process of buying a new one. The question then very naturally arose, "How long on the average, does the new car remain in the hands of its original owner?" From the behavior of the industry, the conclusion was reached that the answer is approximately three years. Inquiry developed the fact that apparently no statistical evidence had ever been gathered on this question. One of the large automobile companies on request willingly analyzed its sales records for a period of time and the answer derived was approximately two and three-quarter years. Statistical evidence therefore supports the answer previously deduced.

The reasoning behind this development is: A very serious reduction in output of automobiles occurred in 1918. Records show that automobile output follows consumer purchases very closely from the time standpoint. Consideration of the investment and storage space required under any other conditions will indicate the same conclusion. The terrific reduction in output encountered in 1918 means that during the normal replacement period for cars sold in 1918, there would be over 700,000 fewer cars to be replaced and

this reduction in replacement demand would center itself, that is, reach the bottom of the valley, at approximately the average replacement period. New car sales to original purchasers could only counteract this decline in replacement sales providing they occurred in sufficient amount above *usual* new sales and this would be increasingly difficult as the replacement sales constitute a greater and greater percentage of total sales.

This decline induced by the drop in replacement purchases would and does in itself tend to cause a still greater decline at the time because the reduction in output tends to cause a decrease in demand for materials, parts and supplies from other sources. In this progressive and accumulative manner sales decline and unemployment result. Each successive decline is therefore the progenitor of one to follow, the basic cause lying in the original disturbance that interrupted the even flow between producer and consumer. This important economic phenomenon may be termed the replacement cycle.

From the foregoing discussion of the basic causes of the prevalent three-year period in the surging automobile output, it will be apparent that the only conditions necessary to produce the recurring declines in the demand for any commodity are:

1. Any external or internal event that will cause a serious break in the continuity of the demand. The nature of the commodity must be such that purchase may be deferred for a reasonable period of time.
2. The existence of any factors such as wear and tear, style changes or obsolescence which produce an average life before replacement that is reasonably definite and greater, for example, than one year, when the year is the unit used for the measurement of time.
3. The absence of an unusual new demand that would counterbalance the loss in replacement sales resulting from the decline in the previous period.

The loss in demand occurring in this manner is not a final loss but merely a deferment of purchase. When more satisfactory economic conditions return, the deferred purchases are added to those normally due and volume rises above what would otherwise have occurred. These periods of intensified demand will also reassert themselves. A low period is followed by a high one and the elements of a surge are complete.

Analytical work is now underway on a few major industries. It has proceeded to a point where we can say definitely that certain periodicities are inherent in some industries. Other and important forces are at work, but it seems possible that in these complex relationships and influences just described, we are finding some causes of first movements in our economic cycles.

These are primarily problems in evaluating demand. In many lines, we have a great abundance of statistics and in the aggregate such a mass of them that they defy interpretation. One thing is clear however; that is a great lack of statistics on demand as distinguished from production. This statement

applies with particular force to measures of consumer demand in which all other activities take root.

One of the many causes of our recurring business cycles that is commonly given is over-production. If over-production does exist, it must be found in inventories. Such evidence is sadly lacking. We need data that will show the simultaneous trends of production, sales and inventories.

To recapitulate, the answers to the inquiries made in the questionnaire indicate that the technique of estimating market demand can be much improved; that data are incomplete in many respects; that better coordination in the determination of data required and in its collection should be accomplished. With respect to the nature of data required to estimate market demand, we may suggest that basically, no matter what the industry or its method of distribution, we must know what that demand is, where it will arise and when it will occur. With these fundamental factors in mind, each industry must carve out its own program and should provide the active leadership in doing it.

Discussion by

EDWARD R. DEWEY, *Director, Bureau of Foreign and Domestic Commerce*

MR. McNIECE has said that we need to know what the demand is, where it will arise and when it will occur. For that we need, as he has said, statistical data.

I should like to draw an analogy. I compare statistical data of the sort published by the government to building materials, such as bricks, lumber and other things handled by building material houses. Carrying the analogy further, our needs in selling goods to industry are comparable to houses, office buildings and other structures built out of those materials.

The government is the fountain head of the many sources of raw data. Supplementing the government are the trade associations, the business press and the universities. But these data are just like building materials, and are of no immediate use in raw form.

To bridge the gap between raw data and practical application we need people who can analyze data and whip them into shape, just as a contractor makes a building out of brick and mortar.

In answer to Mr. McNiece's questionnaire the need for data was emphasized. In a great many cases the data or raw materials mentioned as being needed are now available. The Department of Commerce, which may be thought of as a builders' supply house, has an inventory of perhaps fifty million dollars worth of facts, which, except for the Census of Population and Agriculture, have been gathered at the express request of business. These facts are available for use in assisting business organizations to maintain and to develop their marketing projects.

Occasionally, however, data needed to estimate actual demand, potential

demand, prospective demand, territorial demand, etc., are not available or supplementary information is desired.

What can be done under these circumstances? The census bureau already publishes information showing the production of about four thousand different commodity classes which will help in estimating *actual* demand. If those in which an individual or organization is interested are not shown separately by those figures, the matter should be taken up with the Census Bureau *through the organization's trade association*, and a desire expressed for the data wanted. The information is only gathered when a desire for it is expressed by industry.

To determine *potential* demand, of course, data in regard to other industries must be used; that is a matter of estimating, of building. For example, a manufacturer of boxes for lawn mowers can approximate the potential demand for such products by finding out the number of lawn mowers that are manufactured. That sort of information is also available from the Census Bureau.

Similarly, in regard to *prospective* demand, there is an enormous mass of information already available of the sort Mr. McNiece has mentioned which will show the surges in individual industries and in general business.

The trade associations, generally, are in the best position to gather such information for their members. There is much information that can be gathered only by the members of a trade collaborating with each other. For instance, the determination of trade or industry figures as a yardstick with which to compare individual performance. Where it is proved that the trade association or other private agency cannot gather statistical information itself, and that the manufacturers want it, the government is willing, at the expense of the association, to gather the data that are requested.

Similarly, for *territorial* demand, by clever building of the statistical data already in existence, it is usually possible to make close estimates, county by county, of the demand for any product. Where such data are not available, the firms and individuals in the industry can pool sales information through their trade association. Or if the trade association or other private agency cannot undertake a job of that sort, they can ask the government to act as a clearing house of sales figures, thus determining where their markets actually are, state by state, county by county, or company by company, if they want it that way. I cannot emphasize too strongly Mr. McNiece's suggestion that this is a matter for each individual trade to take up by itself.

By using this information in regard to a whole industry as a yardstick with which to compare individual performance, item by item, the individual can determine the extent to which he is better or worse than his associates in each of all possible significant particulars. This will work to the benefit of all, the industry as a whole being made better able to meet the competition of other industries.

THE MANAGEMENT INDEX

Abstracts and News Items

GENERAL MANAGEMENT

Little Business Stages A Comeback

"It is a commonplace that ours is a country of tremendous corporations and that the doom of small business is sealed. It may be surprising to learn that the David of today, as represented by small business, needs a guardian no more than did the David of old, and that it might be more to the point to take some steps to prevent Goliath from demonstrating that the bigger they are the harder they fall," says Samuel Crowther.

The manufacturing establishments which have 500 or less employees still employ the majority of the wage-earners of the country. There are still about 100,000 shops employing less than six people. The independent retail stores still do at least two-thirds of the business of the country. Mr. Crowther cites some interesting examples of small profitable businesses. By Samuel Crowther. *The Saturday Evening Post*, Jan. 30, 1932, p. 31:3.

Moving Toward Monopoly

A mass of statistics which seeks to prove that big business must inevitably gobble up its smaller rivals, resulting in what amounts to monopoly of many industries by one or two great enterprises which control raw materials, manufacturing and distribution. By Lawrence M. Hughes. *Scribner's*, February, 1932.

Economic Agreements—A Factor of Business Recovery

Examining forces which are working for international economic rapprochement, the Director, The Credit Foncier de

France, discusses world business relations and details certain problems Europe faces today. He stresses the importance of international conferences, stating that they are bringing about unity or a more harmonious condition in the legislation and regulation of the participating countries. By Jean Parmentier. *Executives Service Bulletin*, February, 1932, p. 3:2.

Recent Changes in the Bituminous Coal Industry

By Thomas M. Wolfe. *Harvard Business Review*, January, 1932, p. 149:12.

A New Day for Bankruptcy

An outline of the solicitor general's proposals for bankruptcy reform. By W. Randolph Montgomery. *Credit Executive*, November, 1931, p. 20:2.

Two Financial Roads Leading Out of Depression

The President, Scandinavian Land Company, Minneapolis, outlines two relief plans, for a Federal Building Bank and a Federal Bank Credit Guarantee Corporation. By Ditlew M. Frederiksen. *Harvard Business Review*, January, 1932, p. 137:12.

Preparation and Administration of Budgets

A discussion of methods for preparing and administrating budget systems for electric light and power companies, based on ten years' actual experience of the industry. The importance of a sympathetic and constructive management atti-

tude toward budgetary operation is stressed as being the greatest single factor contributing to a successful forecast of activities and control of expenditures. The need for proper organization is emphasized so that administrative policies will be readily accepted and the responsibility for attaining results clearly and correctly placed. In this connection an organization outline for a utility, incorporating the budget system, is illustrated graphically. A number of illustrative budget forms accompany the text. *National Electric Light Association, Publication No. 23*, January, 1932. 34 pages.

1932: What It Means to Associations

The President, American Trade Association Executives, looks into the future and reports promise of increased responsibilities and opportunities. By Warner J. Hays. *World Convention Dates*, February, 1932, p. 8:2.

Inter-Relationships of Wage Incentives, Standard Costs and Budgetary Control

An intelligent and coordinated application of wage incentives, standard costs and budgetary control will make an important contribution to that ultimate goal of all business—net profit. By C. W. Walkley. *N. A. C. A. Bulletin*, February 1, 1932, Section I, p. 744:6.

January 1, 1939

There exists the possibility that January 1, 1939 will be one of the most important and significant dates in modern times. For on that date a simplified calendar may be placed in operation. Not the much talked of thirteen month calendar but a calendar of twelve months embodying a few changes whereby each day, week and month of each year will be uniform in that there will be no variation as to day and date from one year to the next.

The World Calendar regulates the

twelve-month year. It is balanced in structure, perpetual in form. The twelve months are divided into equal quarters of three months each; the first month has 31 days, the remaining two 30 days. These quarters comprise 91 days, 13 Sundays and 78 week-days. Each month has 26 week days. Some arguments which favor the adoption of the World Calendar, including a statement of its advantages to American business, are considered. By Gilbert Parker Hayes. *Credit and Financial Management*, February, 1932, p. 18:3.

The Contribution of Trade Associations to Business Research

The following papers are included: "Research in Management Problems by an American Trade Association," by Ernest F. Dubrul; "Trade Association Activities and Better Management," by Charles J. Brand; "The Trade Association, a Necessary Adjunct to Successful Business Management," by George A. Lilly; "Research and Industrial Planning in the American Hosiery Industry," by George W. Taylor. *Proceedings of International Management Institute Conference*, July 1-4, 1931, Vol. III.

Power and the Public

Field and Function of the Holding Company; Rates—Domestic, Commercial and Power; Regulation: Federal and State; Valuation; Public or Private Ownership. *The Annals of the American Academy of Political and Social Science*, January, 1932. 155 pages.

Profits and the Size of Firm in the Automobile Industry, 1919-27

Between 1919 and 1927, there were sixteen automobile manufacturing companies which engaged continuously in business, participated in no important mergers, and published financial reports for all years of the period. These sixteen concerns were investigated in order to ascertain the rela-

tionships between size of invested capital, rate of net profits to capital, stability of this rate from year to year. Little evidence was found to indicate that large invested capitals and high earnings rates accompany one another, or that large capitals and high stability of earnings are associated. Substantial correlation was, however, seen to exist between high earnings rates and relatively stable earnings rates from year to year. Probably the reason for the absence of any general correspond-

ence between the size of the firm and its rate of earnings lies in the fact that in the automobile industry no competitive prices, in any orthodox economic sense, can be said to prevail. Yet the industry is beyond question one in which the keenest of competition exists between producers. What holds true here in these respects is typical of other industries which make specialized consumers' goods. By Ralph C. Epstein. *The American Economic Review*, December, 1931, p. 636:12.

FINANCIAL MANAGEMENT

Cash Burdened Corporations

Within the past several years long-term financing, chiefly through stockholders' equity, has, in a large measure, been substituted by leading industrial corporations for bank loans and other types of short-term borrowing as a means of financing working capital requirements. The principal disadvantage of financing working capital through stockholders' equity, as opposed to bank loans, is that the amount of working capital cannot easily be varied with the varying needs of the corporation. Accordingly, under the present financing methods, corporations find themselves with an excess of working capital, except, perhaps, during the months of maximum seasonal requirements. This excess working capital shows itself in excess cash balances. The income which can be derived from such cash is not sufficient to justify its retention in the business in excessive amounts. A resort to the earlier practice of meeting peak working capital needs through bank borrowing would therefore rebound to the advantage of the corporations.

If corporations with large surpluses and excess cash cannot use the latter profitably in their own business, they should pay such surplus funds out in dividends to their stockholders rather than maintain unduly large bank balances or go into the investment business. By Frederick A. Bradford. *American Bankers Association Journal*, January, 1932, p. 465:3.

Concerted Action to Stop Further Deflation

There is a growing recognition that deflation has gone far enough to have eliminated most of the excesses which accompanied the boom. An analysis is made of the present business situation and of the comprehensive constructive measures which are being put into operation to stop further deflation. *Business Bulletin*, Michigan Mutual Liability Company, February, 1932. 8 pages.

Record of Insolvencies in 1931

The many economic troubles, financial and otherwise, which the country suffered through the whole of 1931 and the greater part of 1930, and which continued right up to the opening of 1932, have had as an accompaniment an exceptional number of business failures. In every way the effect of these conditions was most disastrous. Measured by bankruptcies, they disclose a record far in excess of any previous number, going back over a period of two generations or more. Compilations prepared from the records of R. G. Dun & Co. show 28,285 mercantile defaults in 1931, involving a total of indebtedness amounting to \$736,309,102. This takes no account of the many bank failures reported last year, with exceptionally heavy liabilities. The nearest approach to the failure record of last year

was that for the year 1930, when 26,355 mercantile insolvencies were recorded, for \$668,283,842 of indebtedness. During the three years prior to 1930 the number of defaults was about 23,000 in each year; also, in 1922 the number was about the same. In the first year of the European war, 1915, there were 22,150 similar defaults. With these exceptions the number of such disasters has been below these figures in every year reported. *The Commercial & Financial Chronicle*, February 6, 1932, p. 905:3.

When the Acceptor Doesn't Pay

A trade acceptance form which avoids all of the legal pitfalls discussed by the author is reproduced together with four undesirable forms that are in frequent use. Reference is made to legal data on the subject. By G. L. Cranton. *The Burroughs Clearing House*, January, 1932, p. 22:2.

An Audit Prevented Disaster

Some time ago a bank in one of the largest cities in the United States found itself in the woollen business. A corporation engaged in jobbing woolens which had borrowed heavily from the bank was in difficulty. The bank demanded an audit of the business and the jobber finally agreed. The audit revealed the fol-

lowing startling practices: most of the employees were inefficient relatives; employees were buying from the company at too liberal discounts; past-due accounts receivable were those of employees and relatives; special discounts from manufacturers were pocketed and not recorded in the company's books.

The bank forced management revisions. It insisted on the discharge of inefficient and unnecessary employees. It installed a control system that properly accounted for every item of income and expense. It arranged periodic reports and checks by an outside auditor. The result was that the business has maintained successful operation ever since and the company is now a profitable customer of the bank. E. B. Wilcox. *The Bankers Monthly*, February, 1932, p. 100:4.

How Companies Invest Billions Safely

During the last three years the liquidity of life insurance assets has met a most unusual test. Liquidity is the combined result of premium incomes spread over a wide population area, diversity of interest-bearing obligations with maturities occurring at frequent intervals, and also of substantial holdings of the world's premier security—United States government bonds. By William A. Law. *The Insurance Field*, Dec. 11, 1931, p. 13:2.

Insurance

Legal Highspots of 1931

State court decisions indicating trends in the interpretation of fire insurance contracts during the past year are cited and analyzed. Among the cases discussed, there is one litigation involving the validity of an oral fire insurance contract which again resulted in the affirmation that oral contracts are effective. Another deals with appraisals in the case of dispute after a total loss has occurred. As further evidence that total loss of real

estate is not subject to appraisal a supplementary case is cited to show that even though there is a clause in the policy providing for appraisal and preventing suit by the insured, the clause may be waived by the conduct of the carrier. Other decisions regarding questions of ownership, change in interest or title, delay or failure to file proof of loss and failure to provide an accurate description of the property insured are included. By S. B. Ackerman. *The Spectator*, February 11, 1932, p. 4:4.

What Every Insurance Manager Should Know

The importance of extensive knowledge regarding property covered as an essential background to the equitable settlement of losses is demonstrated by a description of several claims that have been settled recently. "Unseen" losses are not always apparent to someone outside the organization or to one who is unfamiliar with production operations involved in salvaging. The opinion of disinterested experts can be secured for loss appraisal but this imposes extra expense on both carrier and insured.

Logically a tactful, well-informed insurance buyer who knows his insurance policy and the business he represents will hold a decided advantage over any other representative. With the burden of proof resting with the claimant, sound reason and tact will go far toward a meeting of minds. By P. D. Betterley. *Management Methods*, February, 1932, p. 127:1.

Wisconsin Calls for Showdown On Unemployment Insurance

Wisconsin is the first state to insist that its employers assume the responsibility for providing either steady work or unemployment compensation for their personnel.

Unless a majority of the eligible employees of the state are protected by privately sponsored unemployment reserve plans by June 1, 1933, the state plan will become effective and will be made compulsory for all employers of 10 or more persons who have not made provisions for unemployment reserves.

Under the standards set up by the state, employers must contribute not more than two per cent of payroll. Each will maintain his own fund to pay benefits to his own employees. When his reserves amount to \$55 for each employee, contributions are reduced to one per cent of payroll; they cease when reserves equal \$75 per employee. This provision gives each concern a definite incentive to stabilize.

Benefits are payable at the rate of 50 per cent of average weekly wage, with a maximum of \$10 per week, for not more than 10 weeks in any year, beginning after a waiting period of two weeks. Number of payments depends on length of employee's service.

Employers may participate in state reserve funds, insure themselves, or develop group plans. In any case, administration of all reserves will be in the hands of the state Industrial Commission. *The Business Week*, Jan. 20, 1932, p. 20:1.

OFFICE MANAGEMENT

Organization: Job Analysis, Employment, Pay, Tests

Centralized Bookkeeping Saves Money, Helps Service

Centralizing bookkeeping and accounting work formerly done in five offices of the San Francisco division has enabled the Pacific Gas and Electric Company to save money and has improved the service rendered to customers.

By the installation of a telephone typewriter system which connects four offices of the division in smaller outlying cities

with division headquarters in the main building in San Francisco thousands of customers are able to obtain information about their accounts just as readily as when the accounts were kept locally.

Closer supervision of all bookkeeping and accounting by the head office, made possible by this consolidation, has cut overhead costs by eliminating traveling auditors. At the same time the much larger volume of work has justified the in-

stallation of the most modern types of accounting, addressing and other time-saving equipment. Savings in labor, equipment and floor space required greatly exceed the rental of teletypes and lines.

As a rule, an outside office on the circuit can obtain a detailed report on an account in from six to eight minutes. Smaller offices without direct connections may telephone requests for information to the nearest teletype-equipped office and it is relayed back by telephone. *Management Methods*, February, 1932, p. 92.

Salaries to Be Restored As Earnings Increase

Westinghouse's 1931 reduction of 25 per cent in all salaries over \$200 a month has been increased to 30 per cent. However during 1932 salaries will be increased in ratio to any rise in the company's earnings. For each \$40,000 aver-

aged during a period the company will restore one per cent of salaries. Thus an average net monthly income of \$80,000 for a three month period would reduce the salary reduction from 30 per cent to 28 per cent.

Salaries less than \$200 a month are cut by seven-tenths the amount of those exceeding that figure—a maximum of 21 per cent against 30 per cent.

Regardless of increase in earnings, a 10 per cent reduction will remain in effect. Under the new plan vacation pay, which was suspended last summer, will be paid in the future to salaried workers. *Management Methods*, February, 1932, p. 83.

Personnel Rating

An outline of the fundamental rules with some consideration of the graphic scale. By Walter Dill Scott. *Industrial Relations*, January, 1932, p. 11:1.

Space: Location, Equipment, Arrangement

10 Points for Reducing Insurance Costs

Companies planning a new industrial or office building should consider ten factors affecting cost of insurance and possible fire loss: good fire-resisting construction; well anchored and supported floors, columns and walls; avoidance of concealed spaces in floors, walls and roof; addition of such area cutoffs as fire walls, fire doors, wired glass windows, etc.; fire fighting equipment easily accessible; arrangement of inside partitions and cupboards in relation to effectiveness of fire fighting equipment; blowers, fans and similar equipment easily shut off; insulated hot pipes; grill work instead of solid guards; and provision for water drainage. *Management Methods*, January, 1932, p. 15.

Offices of the Year

A portfolio designed to assist office equipment salesmen and their customers

in planning better offices. It contains photographs of outstanding offices, giving essential facts about them, suggesting arrangements, color schemes, decorations and equipment which make for more efficient and more attractive working places. *The Office Equipment Salesman*, November, 1931, 95 pages.

Every Modern Convenience

This article treats of the mechanics behind the skyscraper's façade—elevators, steel cables, noise filters, air conditioning, electric eyes, heating and cooling systems and other devices that contribute so much to urban business life. By George W. Gray. *World's Work*, February, 1932, p. 34:5.

Inventory Control as Applied to Furniture and Equipment

An explanation of a system of keeping a detailed record of furniture, fixtures and equipment which lists these advantages:

1. To determine the various kinds of equipment in use with view of working toward a standard for future purchases;
2. To have a record easily available of surplus items that could be transferred from one department to another or between branches when required for temporary use and prevent emergency pur-

chases; 3. To provide a means of placing a valuation on the furniture, fixtures and equipment owned in order that it could be insured for the proper amount; 4. To furnish data in connection with entering a fire insurance claim. By Chas. W. Fellows. *The Canadian Purchasor*, January, 1932, p. 69:1.

Administration: *Regulations, Supplies, Communications*

Two Ways to Reduce Stationery Costs

Luckenbach Steamship Lines' method insures overlooking exhausted supplies in reordering and insures a complete supply of all forms at all times. One of each of the company's 112 forms is placed in a large loose-leaf book. The forms are pasted in; thus they cannot be taken for ordinary use, and still are easily removed as they are voided. New forms may be added. An employee checks the stock supply against this book regularly, and re-orders on low stocks. Since inaugurating the method the company has never run out of a form, and has saved many dollars in charges for rush work on forms that otherwise would have run too low. *Management Methods*, Feb., 1932, p. 85.

Check Sheet for Letters Cuts Receivables, Protects Good-Will

A wholesale house that does a national business, in overhauling its collection letters, has reduced the age of outstanding receivables from 131 days to 90. The examination revealed wordiness, weakness, tactlessness and tritely formal, stuffy phraseology.

The results: collection letters that commanded respect, built good-will, reduced the age of receivables outstanding, and aided sales; credit letters that increased returns from requests for financial statements by 30 per cent. In addition the plan reduced expenses for transcribing, stationery and many minor items. *Management Methods*, February, 1932, p. 90:2.

PRODUCTION MANAGEMENT

Plant: *Location, Lighting, Heating, Ventilation*

Modern Painting for Modern Plants

Proper selection of colors affects lighting, seeing ability, cleanliness, appearance and working conditions. The psychological effects are also important. Well managed plants are nearly always well painted. One might say that there is a close relation between paint and profit. Mr. Chase brings the plant manager some ideas and suggestions on this important phase of maintenance. By Herbert Chase. *The Iron Age*, Feb. 11, 1932, p. 392:4.

The Privately Owned Industrial Laundry

If the volume of work warrants the operation of a laundry department, the industrial organization is not only able to reduce its laundry bill but has complete supervision and control over the output, according to the Assistant Superintendent, Chicago, Milwaukee, St. Paul & Pacific Railroad, which has found the plan satisfactory. By W. C. Juhnke. *Industrial Record*, January, 1932, p. 25:2.

Employment: Classification, Selection, Tests, Turnover

The Problem of Collaboration

Several years ago a series of comprehensive experiments were begun at the Hawthorne Works of the Western Electric Company to determine the effect of various changes in working conditions upon the output of the employees. A group of girls was segregated from the rest of the employees. Over a period of time a number of changes were made in their working conditions. For example, rest periods were introduced, a morning lunch was given, hours of work were reduced, hours of work were again increased to normal, rest periods were eliminated, the morning lunch was eliminated. No definite conclusion could be reached regarding any one of these changes for whether hours were increased or reduced, whether rest periods were introduced or eliminated, each of these various changes in working conditions produced an increase in output.

The series of experiments advanced from one step to another until finally personal interviews of all employees were introduced. Somewhat the method of the psychiatrist was adopted. The interview-

ers were instructed to listen attentively and with sympathy but to make no suggestions and to give no advice. During the interview the employee was encouraged to talk about any of his likes or dislikes, whether these applied to work, to home or to social affairs. The employees were promised that no matter what they said their conversations would be kept in the strictest confidence and were in no way conveyed to the management. A rather startling increase in the general morale of the employees resulted from these interviews.

The conclusion was reached that modern industrial and social life produces certain irrationalities in even the most sane of people and that the opportunity to talk over their likes and dislikes with an unprejudiced and sympathetic listener who neither blames nor praises, allows the employees themselves to see their own irrationalities and more or less automatically to correct their own troubles. By Elton Mayo. *Address before the Personnel Club of New York* on February 3, 1932.

Industrial Economics: Labor and Capital, Legislation, Wage Theory, Immigration

Report of the Fourteenth Annual Silver Bay Conference on Industrial Relations

The discussion during the annual conference held August 26-29, 1931, directed attention primarily to the insecurity of the industrial worker which has proved to be at the very center of the causes of the present depression. Papers presented included: Security of Employment—a Statement of the Problem, by Mrs. Lillian Gilbreth; An Experiment in Stabilizing Employment, by W. W. Bates; The Rochester Unemployment Benefit Plan, by M. B. Folsom; Progress in Industrial

Relations, by Edward S. Cowdrick; The Press and Public Opinion, by Dr. H. C. Parmelee; Proposals for Federal and State Legislation, by James A. Emery; What's on the Worker's Mind, by Whiting Williams; Economic Planning for America, by Matthew Woll. 64 pages.

Are Industrial Wages Deflated in Proportion to General Drop in Values?

There has been a general feeling that wages have not been decreased in proportion to the cost of living and other factors. Technically, this is correct, ac-

cording to a survey of 246 plants, covering 156,915 employees in September 1929, and 101,161 employees in September, 1931. During this period wage rates were reduced 5.6 per cent in proportion to a 15.0 per cent reduction in the cost of living during the same period. Such a comparison, however, leads to an erroneous conclusion that wages have not been deflated in proportion to cost of living. Taking into consideration the shorter working week, together with the reduction in wages, those who are working in the plants included in this survey were receiving 25.3 per cent less weekly wages in September, 1931 than they were in September, 1929. But in order to get the full effect of decrease in income, it is necessary to take into consideration the fewer number of people receiving income from these plants. There was a 47.5 per cent decrease in total wages paid by the 246 companies included in this survey. This figure shows that those dependent on these companies for their livelihood received 47.5 per cent less income in September, 1931 than they did in September, 1929. This decrease in the total wages paid compares with a 29.0 per cent drop in Dun's Wholesale Price Index, a 34.7 per cent drop in Bradstreet's Wholesale Price Index and a drop of only 15 per cent in cost of living, including food, housing, clothing, fuel, light and sundries. Such figures paint an entirely different picture and show us that the general opinion prevailing that wages have not been liquidated in conformity with the general reduction in other values is erroneous. *N. A. C. A. Bulletin*, February 1, 1932, Section I, p. 729:16.

Wages Policy In Soviet Russia

The vicissitudes of wage policy since the inception of the Communist experiment have been considerable. The pendulum has swung from efforts to attain equality by rationing and by wage rates to systems of piece-work and payment by results which seem to combine the ideas of

Lenin and Taylor. The present theory seems to be that in the stage of State capitalism by which socialization is being built up, the principle that must not go by the board is that of the immorality of employing labor for private profit. The State, however, can recognize and reward superior types of service. Yet the principle of equalization as an ultimate ideal has by no means been jettisoned.

The conclusion is drawn that even all-powerful dictators imbued with a ruthless and daemonic urge towards the speedy fulfilment of Communist ideals have had to give way and realize "the inevitability of gradualness," some of the implications of the international interdependence of the factors of production, and the power of "intractable non-monetary phenomena." By S. Lawford Childs and A. A. Crotet. *Economic History*, January, 1932, p. 442:19.

A Panorama of Economic Planning

Thirteen foreign nations have adopted national economic planning as a means of stabilizing business. A similar course is advocated for this country and a score of plans proposed. In this article these plans are compared. *Nation's Business*, February, 1932, p. 29:4.

Economic Errors and the Depression

Among the economic fallacies which are analyzed and their weaknesses shown are: 1. That governments have the power to restore prosperity by increasing their expenditures for public works; 2. That high wages are a panacea for depression; 3. That countries who sought to maintain their currencies at their par values in foreign exchange markets by carrying a part of their reserves in the form of bank balances in gold standard countries were on the gold standard. (These countries were not on the gold standard but were really on the gold exchange standard, which is quite a different thing, as recent experience has shown; 4. That prosperity can be restored by increasing the supply

of money and credit outstanding—the so-called "cheap money" doctrine; 5. That business requires a new type of leader, a "Moses" to bring it out of the wilderness; the idea is simply that of a planned economy—a business dictatorship; 6. That the current low level of business in this country is directly traceable to the upward tariff revision in 1930; 7. The persistent tendency to dread the appearance of an import surplus in foreign trade. This attitude is nothing more than a slight modification of the old mercantilist doctrine that the welfare of a nation depends on its ability to discourage imports and to expand exports; 8. That prices can be controlled by artificial means; 9. That in order to recover prosperity, the world must re-establish the price level. *The Guaranty Survey*, January 25, 1932, p. 6:4.

The Wage Assignment Evil

Statistics prepared by Armour and Company indicate that wage assignments are increasing. A large percentage of these wage assignments were found to be given for luxury items, far exceeding those given to loan companies to cover loans. A

large percentage of them were found to be given by people who do not realize that they are signing a paper that constitutes a wage assignment. The remedy for the evil is said to lie in legislation. The legal phase of the question is discussed. By Walter C. Kirk and Alex Elson. *Report of the Meeting of the Industrial Relations Association of Chicago*. December 14, 1931. 13 pages.

German Trade-Unions

Although of the large industrial States, Germany has perhaps been hit the hardest of all by the economic depression, the adverse consequences of extensive unemployment have as yet affected the German trade-unions comparatively little. This remarkable resistance during this crisis is due mainly to the long training of the members, the capability and trade-union faith of the officers, and to the system of benefits. In 1930, when conditions were bad 34,800,000 marks (\$8,282,400) more were expended for unemployment, emergency and traveling benefits than during the preceding year, which was by no means a time of prosperity. By Fritz Kummer. *Monthly Labor Review*, January, 1932, p. 13:5.

Benefit Systems and Incentives: Pensions, Vacations, Profit Sharing, Wage Plans, Suggestions, Stock Ownership

For Unemployment Insurance see Insurance Section

The Use of Wage Incentives in Industry with Particular Reference to the Chicago Area

This survey was confined to the Chicago area, and the companies investigated were, with few exceptions, the largest in their respective industries. The study was further limited to factory or industrial workers, including shipping-room help, maintenance employees, tool-makers, inspectors, and direct supervisors, as well as direct workers. The results of the present survey are compared with those

of similar investigations recently completed.

Data were obtained from 40 establishments employing 152,163 workers, of whom 44,674 workers were on time wages, 58,467 on straight piece work and 49,022 on some form of bonus or premium payment.

The wide use of only a few plans of wage payment is shown, especially of day work and piece work. The widespread use of time wages and straight piece work is striking in view of the many other

methods of wage payment available. A simple plan easily understood and administered that is accompanied by sound management has been found to effect better results than the more complicated ones.

Better understanding by executives of the problem of paying workers manifests itself in the closer attention being paid to fundamental issues of successful wage incentive operation. By Michael J. Jucius. *The Journal of Business*, January, 1932, p. 76:10.

\$7,862,459 to Staff of General Motors

A distribution of \$7,862,459 in cash and securities is being made by the General Motors Corporation to 30,222 of its employees who invested in its savings and investment fund of 1926, which matured on December 31, 1931, it was announced recently by Alfred P. Sloan, Jr., President. The number of employees sharing in the distribution is 50 per cent greater than the 20,009 of last year. The sum is represented by \$4,923,341 in cash and 129,905 shares of General Motors common stock, valued, at the year-end market price, at \$2,939,108.

Each employee who invested \$300 in the Savings Fund Class of 1926 is receiving now a total of \$661.71. This sum is made up of the employee's original investment of \$300 and an interest payment of \$114.35, the corporation allowing interest at the rate of six per cent. The balance consists of 10.93 shares of the common stock at 22½ (closing market price December 31, 1931), representing the accumulation on account of the contribution by the corporation to the fund. *New York Times*, February 5, 1932, p. 31.

The Partnership Plan of the Louisville Varnish Company

Under the Louisville Varnish Company's plan of partnership all profits, after wages and six per cent interest on money invested have been paid, are divided equally. The first half of the remaining profits after the deductions are

made goes to the employees in the ratio of wages received and the other half to the stockholders. This plan has been found to produce 100% loyalty, efficiency and production. By P. H. Callahan, President, Louisville Varnish Company, 11 pages.

An Insurance Company Insures Its Employee Retirement Benefits

The new retirement and benefit plan of the Bankers Health and Life Insurance Company, became effective on January 1, 1932. It is an insured pension plan, with the added features of immediate protection against the hazards of accidents, sickness and death. Its cost is cooperatively met, the company adding materially to the employees' contributions which by themselves would provide much smaller benefits. A feature of its design is that the service credits will accumulate only on the basis of service after the effective date, i. e., there is no present provision for past service credits. The details of the plan are given. *Industrial Relations*, January, 1932, p. 12:2.

Cancellation vs. Extension in Employee Stock Plans

Because interest payments on unpaid balances are burdensome to stock-participating employees, stockholders of Electric Bond and Share Company have authorized cancellation of a plan that has been in effect since July 1, 1929, and directed repayment of all sums paid in by employees with interest at six per cent. At the time of cancellation none of the 600,000 shares subscribed for had been delivered. The action effected cancellation and surrender to the company of all shares held in trust for the plan, reduction of capital by the amount cancelled, and reimbursements paid in with interest.

On the other hand, Standard Oil Company (New Jersey) put into effect its "Fourth Stock Acquisition Plan" on January 1, 1932. Under former plans the trustees were bound to buy treasury stock for

the fund; under the present the directors may go into the open market for shares acquired for sale to the trustees so that employees will get the lowest price obtainable. To qualify for participation in the second or third plans employees were required to hold a certain percentage of shares acquired under the first plan; that qualification has been removed. *Management Methods*, January, 1932, p. 22:2.

Relative Importance of Check and Cash Methods of Wage Payment in Illinois

A marked preference among employers for the payment of wages by check was found in a survey of methods and frequency of wage payment in Illinois. Of the 1,173 reporting establishments represented in the survey, 86.1 per cent paid their employees by check. The firms included in this 86.1 per cent had 89.3 per cent of the total number of wage earners represented, and disbursed 90.5 per cent of the combined wages bill of the reporting firms. A weekly pay period was the rule in 68.3 per cent of the establishments and of these over three-fourths paid by check; 25.3 per cent of the firms paid semi-monthly, all but about one per cent paying by check. *Monthly Labor Review*, January, 1932, p. 153:1.

Employee Contributions on a Term Basis

An unusual feature of the employee retirement program recently adopted by the Mentholatum Company is the provision under which the company will pay in addition to its regular contributions, about equaling those of the employees, an additional sum which will increase each year, and, so increasing, will annually decrease the amount of the employees' contributions with the result that the company will pay, from the employee's 15th year of service to his normal retirement date, the entire cost of building up the principal of his retirement income. Also upon withdrawal or death after he has made con-

tributions for five years or more, the employee or his estate will receive not only the amount of his own contributions to the date of his withdrawal or death but also the total of the company's contributions for his account. *Industrial Relations*, January, 1932, p. 24.

Employees' Retirement Annuities

Establishment by private business concerns of retirement annuity systems to care for superannuated workers is recommended in the report of a special committee of the Chamber of Commerce of the United States which is to be considered at its annual meeting in May.

The committee does not propose any specific plan but lays down in a series of recommendations general principles which, it holds, should be observed by business concerns and from which may be drawn the general conclusion that "the increasing wealth of the nation and the growing social consciousness of employers and the public have emphasized the need for organized methods of aiding those who have grown old in industry." *Report of the Special Chamber Committee on Employees' Retirement Annuities*, January, 1932, 45 pages.

Values in Employee Ideas

A description of the suggestion system of the Long-Bell Lumber Company. The skeleton of the plan is an organization of committees. First there is a general committee of 14 members, all executives of the various subsidiary companies. This committee is broken up into five groups—public relations, sales, operations, finance and accounting. For each group a chairman is named. As suggestions are received by the secretary of the general committee they are turned over to the group committees for consideration, the nature of the suggestion determining the group. The group committee may then reject it or recommend its adoption. But if the suggestion involves a technical matter the group committee may not feel

competent to pass judgment. In this event the chairman of the group committee appoints a sub-committee, on which technical experts may serve.

When suggestions have passed through this process of investigation they are referred back to a meeting of the general committee. Such meetings are held twice

monthly. If the adoption of a suggestion is voted, the general committee determines the amount of award in accordance with its worth. Suggestion boxes are placed at vantage points to receive suggestions. Bulletin board notices inform employees of accepted suggestions. *Industrial Relations*, January, 1932, p. 33:2.

Research and Experiment

New Ideas Create New Outlets for Production

Depression forces the adoption of new ideas—ideas that effect economies and ideas that create new demands. The development of new ideas, necessary as it is under present conditions, should be a permanent rather than a temporary policy, since the best results accrue from sustained efforts.

Twenty-five per cent of the output of the General Electric Co. in 1929 was in items developed in the previous decade through scientific research. Other examples cited by the author indicate that in small things as well as large undertakings the consistent pursuit of new ideas pays.

By H. E. Stocker. *The Iron Age*, February 4, 1932, p. 328:3.

We Routed Depression with New Products and New Policies

Federal Laboratories closed 1931 with a 15 per cent increase in sales volume over 1930, and an even greater ratio of increase in net profit—because they were willing to change old methods of doing business to meet the peculiar conditions of a depression year. Their old markets slipped—so they found new products, new markets and new ways to sell—described in this article by the president. By John W. Young. *Sales Management*, February 6, 1932, p. 184:1.

MARKETING MANAGEMENT

Market Analysis and Sales Control

Methods that are being used in various companies to determine what a product should be, where it should be sold, and how much of it should be sold, are discussed in detail. Whether the market determination has been made by the analysis method or by a cross-section interview or questionnaire method, the first foundation of proper sales control is the setting up of a process by which, through all sales interviews, market analysis information is constantly obtained, and changes in the market quickly recognized and evaluated. If sales are to be properly controlled a

method must be established of determining what the salesmen should be expected to accomplish. The salesman himself must be given definite instructions regarding the tasks which he is expected to perform. These tasks must be within the possibility of fulfilment. A powerful tool in realizing the ultimate in such a method is, of course, the proper compensation of salesmen, which presents as great possibilities in reducing selling costs as has been demonstrated by incentive payment methods in factories in reducing production costs. By Carle M. Bigelow. *N. A. C. A. Bulletin*, January 15, 1932, Section I, p. 659:22.

This Is the Way to Use the Census of Distribution Reports

An explanation of the scope and usefulness of the Census data as they apply to manufacturers. By Chauncey E. Warner, Jr. *Printers' Ink*, December 31, 1931, p. 72:2.

Six Ideas that Brought Extra Dividends

Profits of the Upson Company were higher in 1931 than they were in 1930, yet there was no resort to wage cuts, the number of employees on the payroll remained practically the same, and prices were maintained to the penny. Six ideas were used to great advantage in maintaining operations on a profitable basis: 1. Never talk price—talk quality. The way to lick price competition is to sell quality. Both dealer and consumer are more interested in quality than they are in price, all reports to the contrary; 2. Let your dealer rate you; 3. Let the dealer set his own quota; 4. Everytime a salesman calls upon a dealer he should do the latter at least one good turn, such as suggesting a selling hint, straightening out a difficulty with a customer, etc.; 5. Teach the dealer the evils of double-selling; 6. Not more dealers, nor harried ones. Give the dealer help to quicken his turnover and refrain from overloading him in order to keep up production. These ideas will continue in use in 1932 to help make it a better year than 1931. By Norman Bruce. *Forbes*, February 1, 1932, p. 19:2.

Distribution Economies Made 1931 One of Our Best Years

The Master Tire & Rubber Corporation, in an attempt to reduce distribution costs, discovered that it had made an intricate thing of something that was comparatively simple. In effecting a remedy the number of branches was reduced to a few maintained in strategically located distribution centers. Many of the company's

largest retail dealers were made distributors and required to produce their own selling organizations. The natural initiative of distributors was increased by turning back to them part of the economies effected in the shape of extra discounts. Fewer and better salesmen were employed, better sales results being found obtainable through concentration on larger accounts. Innovations made are described by the vice-president. By F. C. Millhoff. *Sales Management*, January 30, 1932, p. 154:1.

From Red Ink to Profits—in Sixty Days

Last year, for the first time in the history of the firm, the Electric Hose & Rubber Company lost money. Then they began to look for the mistakes in management that were responsible for those losses. What they discovered, and how they corrected their policies, is told in this article. Their experience proves that profits are possible in spite of much lower volume. By C. D. Garretson. *Sales Management*, December 19, 1931, p. 414:3.

Improving Dealer Accounting Practices

This report presents the experience of twenty-five companies which are assisting their dealers on the problem of accounting. The report cites the types of business rendering such service, the nature and extent of the help given and methods of securing dealer cooperation.

The extension of accounting services to dealers on a comprehensive scale is generally limited to those manufacturers and wholesalers whose products represent the principal or a relatively important part of the dealer's volume. In other words, manufacturers apparently do not consider themselves justified in offering such specialized assistance to dealers who handle directly competing products. This was indicated by the types of industry that use such programs extensively.

While the greatest progress seems to have been made by companies identified

with the automotive and rubber industries, other fields are well represented. These include manufacturers of refrigerators, storage batteries, paints, Portland cement, silverware, rubber hose, photographic apparatus and supplies, cereals and feeds; also wholesalers handling hardware and

variety merchandise. It is evident that these products may be classified as those representing a major source of revenue to the dealers who distribute them. *Policyholders Service Bureau, Metropolitan Life Insurance Company, February, 1932, 21 pages.*

Salesmen: Selection, Training, Compensation

Study of Salesmen's Expense Account Practices

Among the most popular of the plans for trimming down the expenses of salesmen has been the flat rate allowance. This system, of course, has varied with individual requirements. The flat daily allowance leads in the several adaptations of the idea, but weekly and monthly arrangements both have many sponsors. In the majority of instances such allowances have been arrived at by means of careful investigation and close comparison to determine amounts sufficiently ample to allow salesmen to continue their work without impairing their efficiency, but at the same time effecting savings over previous methods.

It is evident from many reports that better cooperation in reference to salesmen's expenditures exists between the

houses and their sales forces than ever before. This condition has been brought about by educating salesmen as to the necessity of retrenchment and the relation of lower expenses to continued employment. Where such a policy has been followed consistently, unusual results have been secured and a marked strengthening of morale has been noted in the sales organization.

Many concerns have found that arrangements with hotels that salesmen were accustomed to visit could be made whereby the men would be given lower rates than they had previously enjoyed and still be provided with the same class of accommodation. This was accomplished by writing to such hotels and asking them to cooperate, assuring them in return for such co-operation the continued patronage of their salesmen. *Dartnell Report No. 386, February, 1932, 34 pages.*

Sales Promotion: Letters, House Organs, Advertising

The Future of Direct Selling

Commenting that "it takes a panic to jar some manufacturers out of old ruts and set their feet on new paths to prosperity," the President, Eureka Vacuum Cleaner Company points out that during post-depression periods in the past, direct selling has proved particularly successful. To be effective, he states, this type of marketing — "house-to-house" selling — must be strengthened by constant rejuvenation of product and, at times, by sup-

plementary selling methods. By Fred Wardell. *Executives Service Bulletin, February, 1932, p. 7:1.*

What Price Will Bring the Most Profit?

A cut of one cent in the price of White Owl cigars opened a vast new market for General Cigar. Millions paid a nickel who couldn't "see" the product at six cents. Volume doubled. So did profits. Which suggests that no matter what the

line, you must, if you want mass patronage, price the product at what the often illogical consumer wants to pay. Based on an interview by A. R. Hahn with William Best. *Sales Management*, January 2, 1932, p. 10:2.

Modern Design Needs Modern Merchandising

New products modernly styled and old products in new dress are finding ready markets. However, intelligent design must be intelligently exploited. The designer who gets results today for the manufacturer plans with all departments of a business before he lays pencil to drawing board. He goes into the production department and learns what the machines can turn out, he consults the sales managers to learn best available outlets, with the advertising department, to determine the most effective appeal. Only then does he set to work to provide the means by which every part of the business can work together to a single result—profitable sales. This is illustrated from the experience of

recent successful newly styled merchandise. The author analyzes the steps actually being taken in 1932 by a famous manufacturer who is completely restyling his line of products. By Walter Dorwin Teague. *Forbes*, February 1, 1932, p. 14:2.

Beats the Depression by Expanding Output and Outlet

Regal Shoe Company, to avoid cutting factory production in 1931, opened 30 new stores and reduced prices. 1931 ended with sales and production schedules running 28 per cent ahead of 1930. By Elmer J. Bliss. *Printers' Ink*, February 18, 1932, p. 17:3.

Gets Volume Without "Sale" Prices

The Northam Warren Corporation increased its volume in 1931. The four main reasons are discussed: advertising, packaging, new products, aggressive merchandising. By B. J. Duncan. *Printers' Ink*, February 18, 1932, p. 41:2.

Retailing

Exploring the Customer's Mind

R. H. Macy & Co. and three allied stores have concluded January sales based directly on what 20,469 women shoppers told them about what women wanted to buy.

The idea behind the Macy survey is that unless utmost care is used in asking questions of the customer he is liable to fool the inquirer or to fool himself. In answering questions, almost every individual consciously or unconsciously may either flatter or punish the questioner; but what the survey seeks is the real truth. If what people actually do can be determined, in many instances why they do it can be figured out by asking apparently irrelevant questions—certainly not by asking them directly about their motives.

For instance, the housewife was asked

in a variety of ways what she actually does: "Do you shop in department stores during sales?", "Do you ever delay buying things that you want until they are put on sale?", "What things do you expect to buy during the big sales next month?" etc. When the answers to these various questions were correlated they proved that thousands of representative women have confidence in the special sale advertising of reputable establishments. It was also found that their views varied decidedly from what the store's professional shoppers had previously thought women would like to purchase.

The Macy survey proved, among other things, that women want quality maintained and that they will buy a better quality article than is usually expected. By Dudley Siddall. *Forbes*, February 15, 1932, p. 12:2.

Setting a Standard for Store Personnel

This is the last of a series of three articles by the Director of Store Operations, Western Auto Supply Co., on methods that are proving successful in that organization. The two previous articles discussed the clerical work of the stores in organizing and standardizing

store operations so as to keep expenses as nearly in line as possible with declining sales volume; and an analysis of a check sheet which every manager is required to use in checking his store once each week. The last instalment considers rating and its benefits in this chain. By W. C. Vogt. *Chain Store Age*, February, 1932, p. 111:2.

Survey of Books for Executives

Successful Living in This Machine Age.

By Edward A. Filene. Simon and Schuster, New York, 1931. 274 pages. \$2.50.

This book comes at a time when everyone is giving some thought to the real and fancied effects of mechanization in industry. Everyone has heard or read about the evil effects of the application of machinery for production of goods and commodities as a substitute for labor. There have even been proposals that a moratorium be declared on further mechanization in order that this depression may be ended and the miseries accompanying mechanization stopped.

We have also been "planned" to the point of satiation with five-year plans, ten-year plans and twenty-year plans. Into this maelstrom of criticism, doubt, hesitation, spectacular ideas and unemployment comes Mr. Filene's exposition of our problem as he sees it. This book is truly a sequel to the author's former book, "The Way Out." The latter was written at a time when economic concepts of the "prosperity decade" were being formed and one could almost be assured of having ideas that Mr. Filene expressed in this book become popular among all classes of our economic society. The sequel to this, however, does not arrive in such propitious times for gaining popularity and general acceptance even though the subject matter is more mature.

The introduction is a delightful preface contributed by Dr. Glenn Frank in which Mr. Filene is characterized as coming

nearer to being the philosopher of our machine economy than any we have yet produced. It is well to keep in mind Dr. Frank's characterization of Mr. Filene as one proceeds in reading this book because many of the statements given, if written by a lesser authority, would produce reactions of doubt and possibly ridicule.

Mass production is here, so the problem is not "are we going to discard it?" but "how are we going to make the best use of it?" Many confuse mass production with large-scale production and Mr. Filene proceeds to identify each. Mass production is still the basis for increasing buying power and how this buying power can be increased becomes an interesting review of events and thoughts of the last ten years. Ford is used as an example of mass production.

The consumer's dollar is also taken apart and analyzed. Great stress is placed upon the necessary education in the use of this consumer's dollar. The elimination of graft in business and government is an essential step in expanding the power of the consumer's dollar. Unemployment in its relation to mass production is attacked with considerable energy and really has thoughts of much merit. "There must not only be jobs for everybody, but actual wealth-producing jobs. Jobs that not merely distribute existing wealth but distribute the ever increasing volume of wealth which better machinery and better methods constantly make possible."

"The second industrial revolution" is

characterized as a period in which the factory system has been reaching its maturity. This is contrasted with "the first industrial revolution" in which the factory system started. The second revolution will be characterized by the urge to give the greatest volume of service, and only from such service will profit rewards come. The relation of mass production to politics, the family, the tariff, world peace and religion are discussed in interesting chapters that will undoubtedly provide much room for agreement and contention among readers.

Socialism and Communism are also contrasted with the philosophy of mass production under the profit system. Everyone becomes a Communist if he is unemployed long enough. Therefore, the challenge to capitalism is the adoption of mass production with its resultant mass buying power. The substitution of facts for opinions in the conduct of business will make the philosophy of mass production more effective than the Marxian doctrines can while they are based upon opinions. Education of the masses in the principles of living under the machine age and achieving at least some consciousness of culture is stressed as an important requisite for the success of mass production and contentment for those who live in such a society. The profit motive is explicitly explained and is shown to be the only reliable inducement to human beings for achievement. Housing is pointed out as one example of the absence of mass production applications. Housing costs have changed very little compared to the values obtainable in automobiles and other popular commodities. Until mass production solves the housing problem, the latter will remain a problem.

While it is not conceivable that everyone will relish all the ideas presented in this book, it is a commendable antidote for much reading matter thrust upon us in these days of depression. Mr. Filene leaves with us a vision of a better day to come and suggests how we may achieve those things that will exist in that better day.

Time only can prove the accuracy of his philosophy but the need for constructive thought and action on the part of the masses commends this book for consideration. The challenge is put to the business leadership of the country and Mr. Filene has made a commendable contribution towards meeting this challenge.

E. E. BRINKMAN,
Industrial Engineer,
Holeproof Hosiery Co.

The Advertising Appropriation. By Albert E. Haase. Harper & Bros., New York, 1931. 181 pages. \$3.50.

The executive who has to determine, approve or administer an advertising appropriation will find this book of valuable assistance. The author does not attempt to set up a formula which will answer the question "How much shall we spend for advertising?" He describes and analyzes the various methods in use, so his readers may apply the basic principles to their particular needs.

The method considered most satisfactory he terms "the objective and task method." This he frankly states calls for hard work. It involves analysis of the market to establish the marketing task and objective, and the use of test campaigns to determine the kind and amount of advertising required to accomplish the desired result.

The second part of the book deals in an interesting and concise manner with the administration of the advertising appropriation, the function of the advertising department and the advertising agency, and budgetary control of the appropriation.

J. D. LENT, *General Sales Manager, Western Clock Company*

Accounting Terminology. Preliminary Report of a Special Committee on Terminology of the American Institute of Accountants. Century Company, New York, 1931. 126 pages.

As a result of ten years of research, a special committee of the American Institute of Accountants has compiled this list

of over six hundred of the important terms which are peculiar to accountancy, with definitions. The purpose of the glossary is to bring about a greater uniformity in terminology.

Frankenstein, Incorporated. By I. Maurice Wormser. McGraw-Hill Book Co., New York, 1931. 242 pages.

Professor Wormser makes in the present volume a singular addition to his previous contributions to the literature of corporations. Recognized as an authority in his field, his words are doubly significant in this volume, challenging, as it does, the present trend of corporate activity and its effect upon the economic structure. Portraying the preponderant influence of the corporation in the development of the vast enterprises of the day, he subjects to a searching analysis the status of the corporation as a social factor and indicates the necessity for needed reform if the threat of its present tendencies is to be neutralized.

In Chapters I and II, the growth of the corporate form from its first suggestion in the writings of ancient Greece to its present extensive development is reviewed. In Chapters III and IV the strictly legal concept of the corporation is discussed.

Chapter V is entitled "Corporate Ills and Abuses, and Their Cure"; in this and the remaining three chapters, devoted to a discussion of corporations in their relations to the professions and the people and to corporate trusts and monopolies, we find the substance of the author's argument.

In view of the numerous recent and glaring examples of fraudulent management of corporations resulting in huge losses to stockholders and creditors and the general weakening of business morale Professor Wormser's observations and strictures in these pages are well merited and timely.

In the discussion of corporate trusts and monopolies the Sherman Act and the more important decisions of the courts construing it are reviewed. There is a growing sentiment that the uncertainty surrounding the application of the anti-trust

statutes is exerting a stifling influence on the country's industry. Professor Wormser presents a rather thorough program. He suggests that a commission be formed empowered to pass upon the legality of proposed combinations prior to their operation, that the approval of the commission shall furnish immunity from subsequent prosecution if the operation conforms to the plan as approved, that the commission shall have supervisory powers in the operation of the combination and that the Attorney General shall have no power to prosecute such combinations until he has secured the approval of the commission.

To those concerned with problems of employment the last chapter should prove interesting. The subject is treated in general rather than particular style. The fundamentals underlying the relation of employer and employee are stressed, and unsound corporate practice in this field is forcefully brought to book. Reverting to his previous premise of the duty of corporate bodies to the State, the author concludes that state supervision and control are inevitable if corporations themselves fail to remedy those pernicious practices largely responsible for the unemployment crisis today.

Throughout the entire book the interplay of the economic, legal and social forces dominating modern society is skillfully portrayed. Many there are who will not agree with all that the book contains. It is to be wondered, in view of the state of our recent experiment in morality by legislation, whether a recognition of and an insistence on honesty as a fundamental necessity of all truly successful business, is not a more effective check on knavery than resort to more and more statutory inhibitions, which are usually evaded as soon as they are enacted.

However, all must admire and appreciate the concise and sparkling style that makes this important contribution to the discussion of present day ills, a readable and entertaining volume.

GERARD L. CARROLL, *Legal Department,*
W. R. Grace & Co.

While YOU hesitate . . . ! others are Building Personnel !

While you wait . . . alert executives are planning for better business. Never before have there been such opportunities to secure the services of experienced engineers, technicians, business executives. Turn to the

Engineering Societies Employment Service
..... and

American Trade Association Executives

Never before were so many experienced men quickly available. Never before could you so readily get the right men for your particular requirements—men whose knowledge can better your methods, build your business, cut your costs.

This selective SERVICE will, without cost, work with you, help you secure the men you need *today* to create and hold the better business of tomorrow.

* * *

For Professional Engineers or Technicians
Address

ENGINEERING SOCIETIES EMPLOYMENT VICE
31 West 39th Street 205 West Wacker Drive 57 Street
New York, N. Y. Chicago, Ill. San Francisco, Cal.

* * *

For Experienced Trade Association and Business
Executives

Address

AMERICAN TRADE ASSOCIATION EXECUTIVES
45 East 17th Street, New York, N. Y.

* * *

This Service
is maintained by
*
AMERICAN SOCIETY
OF CIVIL ENGINEERS
*
AMERICAN SOCIETY OF
MECHANICAL ENGINEERS
*
AMERICAN INSTITUTE
OF MINING ENGINEERS
*
AMERICAN INSTITUTE
OF ELECTRICAL ENGINEERS
*
Cooperating with
AMERICAN TRADE
ASSOCIATION EXECUTIVES

This advertisement published through the courtesy of
THE MANAGEMENT REVIEW